A Big Earth Data Platform for Three Poles

**Geochemical data set of typical rare earth deposits in China (2017-2021)**

1、Description

The data set mainly includes typical rare earth deposits in China, such as Maoniuping and Lizhuang rare earth deposits in Mianning, Western Sichuan, and Gansha OBO rare earth deposits in Gansu Province. These rare earth deposits are genetically related to carbonate alkaline rock complex. In situ U-Pb dating, whole rock major and trace elements, Sr nd Pb radioisotopes, C-O-B-Ca stable isotopes and mineral in situ major and trace elements contents of rocks or ores in these complexes were analyzed. The major elements were measured by X-ray fluorescence spectrometer (XRF), the trace elements were measured by inductively coupled plasma mass spectrometry (ICP-MS), and the isotopes were mainly measured by mc-icp-ms. The main conclusions are as follows: (1) it is revealed that the magma source area of alkaline carbonate type REE deposit experienced the addition of strong subduction material, and its formation depth may be deeper than previously thought（2) It is revealed that the aegirization may be related to carbonatite and alkaline magmatism, and there may be differences in the aegirization between the two types of magma（3) The later reformation of the rare earth deposits with younger age may be relatively weak, while the rare earth deposits with older age are easy to be influenced by the later geological process and difficult to distinguish.

2、Keywords

Theme：dating,Apatite and zircon,Rare earth,LA-ICP-MS,electron microprobe,Rocks/Minerals,Magmatic-hydrothermal evolution,Geochemistry,LA-ICP-MS,Ore-deposit Geochemistry,apatite  
Discipline：Solid earth  
Places：Maoniuping, Gansha Obo, Lizhuang  
Time：Jurassic, Cenozoic

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.5MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：28.87 | - |
| west：101.66 | - | east：101.66 |
| - | south：28.87 | - |

5、Time frame:2017-07-30 16:00:00+00:00--2021-06-30 03:59:59+00:00

6、Reference method

References to data:

LI Ningbo, WENG Qiang, LI Ao. Geochemical data set of typical rare earth deposits in China (2017-2021). A Big Earth Data Platform for Three Poles, doi:10.11888/Geo.tpdc.2715572021

References to articles:

Weng, Q., Yang, W.B., Niu, H. C., Li, N.B., Shan, Q., Fan, G.Q., Jiang, Z.Y.(2021). Two discrete stages of fenitization in the Lizhuang REE deposit, SW China: Implications for REE mineralization. Ore Geology Reviews, 133, 104090.  
  
Weng, Q., Yang, W.B., Niu, H.C., Li, N.B., Qu, P., Shan, Q., Fan, G.-Q., Jiang, Z.Y., Zhang, Z.Y., Li, A., Zhao, X.C. (2021). B–Sr–Nd–Pb isotopic constraints on the origin of the Maoniuping alkaline syenite–carbonatite complex, SW China. Ore Geology Reviews, 135, 104193  
  
Li, A., Yang, W.B., Niu, H.C., Shan, Q., 2021. Mineralogy and U-Pb geochronology of carbonate minerals from the Gansha Obo REE deposit, NW China. Ore Geology Reviews, 136, 104266.

7、Supporting project information

Deep exploration of rare earth element metallogenic system and resource base

8、Data resource provider

name: WENG Qiang  
unit:   
email: wengqiang@gig.ac.cn  
  
name: LI Ningbo  
unit:   
email: liningbo@gig.ac.cn  
  
name: LI Ao  
unit:   
email: liao@gig.ac.cn